

## **A Filtration Device with Cross-Flow Function and its Filtration Method**

### **ABSTRACT**

5

The present invention employs cross-flow to extend operation time of filtration devices and to increase filtration efficiency. The filtration device with cross-flow function consists of a filter, a case for containing the filter and a  
10 diffuser. There are an inlet and an outlet set on the case. The diffuser is set inside the filter along longitudinal direction. The diffuser consists of a reducing section, a throat section and a flared section for producing cross-flow so as to prevent the impurities and particles in the fluid to form cake on the inner surface of filter, so the operation time is therefore greatly increased. A drain  
15 outlet is set for adjusting the impurities and particles concentrations of the fluid inside the filter for further extending the effective operation time.